

51336



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	:	PATENT
	:	
Bernd HANSEN	:	
	:	
Serial No.: 10/582,869	:	Art Unit: 3721
	:	
Filed: June 14, 2006	:	Examiner: T. K. Truong
	:	
For: METHOD AND DEVICE FOR	:	
PRODUCING AND FILLING	:	
CONTAINERS	:	

REPLY BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. § 41.41, Applicant-Appellant submits this Reply Brief in response to the June 9, 2009 Examiner's Answer in connection with the appeal of the above-identified application.

Rejection Under 35 U.S.C. §112, Second Paragraph

In the paragraph spanning pages 7-8 of the Examiner's Answer, the Examiner states for the first time in the prosecution of this application that "over-pressure" is acceptable, but that "a specified" is unclear. The final rejection did not present this wording as being the issue. Even the Advisory Action following Applicant's response after final rejection presenting arguments

similar to those in the Brief on Appeal gave no hint of this allegation. These circumstances required the Applicant to guess at the precise nature of the rejection. This new basis of the rejection essentially constitutes a new ground of rejection, and should be treated as such to allow a fair hearing with additional arguments and evidence.

The word “specified”, as defined in Webster’s Third New International Dictionary (copy of title sheet and page 2187 attached hereto as Exhibit A), defines “specify” as “to include as an item in a specification”. Thus, the wording “a specified” clearly means a set or predetermined value, and would be so interpreted by one skilled in this art.

A search of patent claims on the United States Patent and Trademark Office web site reveals common use of “a specified” as a modifier in patent claims. For example, U.S. Patent Nos. 7,465,216 (claim 1), 7,513,214 (claim 1), 7,434,833 (claim 4) and 7,305,808 (claim 1) of the 248 hits recite “a specified pressure” in the patent claims, and demonstrate that this wording, as well as the similar recitation, “a specified over-pressure” are acceptable and definite claim language. Numerous other patent claim features are prefaced by “a specified”, for example, in U.S. Patent No. 7,546,631 (claim 7). Copies of such patent claims are collected and submitted in the appended Exhibit B.

Thus, the claim wording “a specified over-pressure” is definite, and the rejection under 35 U.S.C. §112, second paragraph, should be reversed.

Rejection Under 35 U.S.C. §102 Over Hansen German Patent

In the paragraph spanning pages 8-9 of the Reply Brief, the Examiner for the first time relies on the “basic law of physics” that air heated by a heat source will continuously heat the surrounding air and that such heating will take place continuously in all directions in support of

the rejection of claim 12 over the Hansen German patent. No analysis or specification of the particular “law of physics” relied upon is given to show that heat energy will radiate in all directions, as opposed to heating only immediately adjacent air with that heated air rising in a direction away from the filler opening. Moreover, nothing supports the allegation that such heating would be to the same level as the heat source (i.e., the Hansen sterile barrier 23) or that such heated air will be directed to the tube opening, as recited in claim 12.

Relative to claim 13, the Examiner appears to indicate that the air heated by a plate to above 150° C constitutes a sterile medium. However, no evidence indicates that any air reaching the tube opening will be heated to that temperature or that such heated air constitutes a “sterile medium”. At most, the air will only be heated, and need not be “sterile”, as claimed.

Relative to claim 14, the heated air is alleged to be under a specified pressure. However, any increased pressure resulting from the heated air would cause the heated air to rise, not be directed toward the tube opening located below the barrier, as disclosed in the cited Hansen German patent. Moreover, since the space surrounding Hansen barrier 23 is not contained, the pressure of the heated air will not be an over-pressure, i.e., will not be greater than the ambient pressure.

Relative to claim 17, no evidence or analysis is provided to demonstrate that the heated air of the cited Hansen German patent would be provided to the filler opening, as alleged in the Reply Brief.

Relative to claim 25, the claim requirement of delivering the media through outlet ports is ignored. Such delivery clearly distinguishes claim 25 over the cited patents.

The remaining contentions of the Examiner, relative to the rejections based on the Hansen German patent and/or the Zelina publication, are adequately addressed in the Brief on Appeal and are not repeated herein to avoid burdening the record.

Rejection Under 35 U.S.C. §102 Over Japanese Patent Publication

In support of the rejection of claim 12 under 35 U.S.C. §102(b) as being anticipated by the Japanese patent publication, the Examiner contends for the first time on page 11 that Fig. 2 of this Japanese patent publication shows the filler opening yet to be formed in Fig. 2. Such allegation is incorrect. Fig. 2 illustrates the tube after being extruded and cut in a location under extrusion device 1 (see Fig. 1) and after being moved to a new location under the blowing and filling mandrel 11 and sterile chamber 12. The sterile chamber 12 of the cited Japanese patent publication is not shown to be over or about its extruder 1 and its cutter 9, as would be required to meet the subject matter of claim 12. The tube of the Japanese patent publication is cut forming the filling opening before being located in the position of Fig. 2 under the blowing and injection molding. During this movement from the site of extruding and the cutting of the tube to the position under the blowing and ejection mandrel 11 illustrated in Fig. 2, the tube is not covered by sterile chamber 12. The Japanese patent publication sterile chamber or barrier 12 does not cover the tube from its formation to its filling, on the basis alleged for the first time in the Examiner's Amendment. The Japanese patent publication has its tube and filling opening formed and exposed to contamination before being covered by the sterile chamber 12.

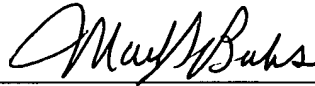
Relative to claims 22 and 23, the Japanese patent publication is cited as disclosing a temperature of at least 121° C. However, such temperature is for the use of a pressurized steam, and not a sterilized medium, as claimed.

The remaining comments in the Reply Brief are adequately addressed in the Brief on Appeal, and thus, are not repeated to avoid burdening the record.

Conclusion

In view of the foregoing and the Brief on Appeal, Applicant-Appellant submits that the rejections of the claims under 35 U.S.C. §112, second paragraph, §102(b) and §103 are untenable, and reversal thereof is solicited.

Respectfully submitted,



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Dated: June 19, 2009

Webster's Third New International Dictionary

OF THE ENGLISH LANGUAGE
UNABRIDGED

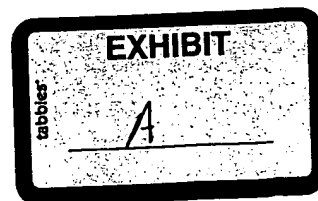
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one has special knowledge: as **a** : a branch of knowledge, science, art, or business to which one devotes oneself whether as an avocation or a profession and usu. to the partial or total exclusion of related matters (a chemist whose ~ is tropical alkaloids) (the major medical *specialties*) **b** : a culture trait characteristic of or restricted to a limited group in a society **specialty contract** **n** : a contract (as a deed or mortgage) depending for its validity upon the formality of its execution (as in being signed, sealed, and delivered) — called also *formal contract*, *special contract*

specialty mark **n** : insignia worn on an enlisted man's uniform that reveals his specialty or rating — compare *RATING BADGE*
special verdict **n** : a verdict setting forth the specific findings of fact made by the jury on the material issues and leaving the duty to make general findings for either party as the law requires on the facts so found

special vert **n** : trees in an English crown forest that provide food for deer

special warranty **n** : a limited warranty in a transfer or conveyance by which the grantor warrants the property transferred to be free of all liens and encumbrances made by, through, or under him

pe-ci-a-tion \ˈpɛʃi-ə-ti-ən/ **vi** -ED/-ING/-S [back-formation fr. *speciation*] **to** : to form species : differentiate into new species
pe-ci-a-tion \ˈpɛʃi-ə-ti-ən/ **n** [*speci-* + *-ation*] : formation of biological species or the processes leading to this end whether constituting gradual divergence from related groups (as by an extension of radiation) or occurring abruptly by combination or transformation of genomes (as in the formation of polyploid species) — compare *MACROEVOLUTION*, *SALTATION*
spe-ci-a-tion \ˈspɛʃi-ə-ti-ən/ **n** [*speci-* + *-ation*] **adj**
spe-cie \ˈspɛʃi-ə/ **sh** also **-i** (j) **se** or **-si** **n** [fr. the phrase in *specie*, fr. L. in kind] : money in coin (required ~ payments) — in *spe-cie* \ˈspɛʃi-ə/ **sh** **se** or **-si** **n** [*spe-* + *-cie*] **in** or **se** : in senses other than *c* or *pe* (h) **se** or **-si** **n** : in or with the same or like form or kind : as **in** : in kind : SPECIFICALLY (his duties are *in specie* identical with your own) **b** : in the identical form and without alteration or substitution — used chiefly in law (an agreement to be *in specie*) **c** : in coin or coined money (payment *in specie*) **d** : in a like manner or with similar treatment (ready to return *in specie*)

specie \ˈspɛʃi-ə/ **n** -s [back-formation fr. *species*] **nonstand** : SPECIES

specie **jar** **n** [*specie*] : a blown glass jar with sheet metal top formerly used for storage (as of herbs or stick candies)

specie payment **n** [*specie*] : payment in coin or bullion as distinguished from payment in paper money

species \ˈspɛʃi-ə/ **sh** **se** or **-si** **n** [*spe-* + *-cies*] **pl** species [*L.* appearance, form, kind, species, beauty — more at *SPY*]

1 a : a class of individuals having common attributes and designated by a common name & a logical division of genus or more comprehensive class : a subclass designated by adding to the name or connotation of a genus some specific difference that limits its application to a restricted group (the triangle is a ~ of plane figure) **b** : a limited kind or group having a distinguishing characteristic; *esp* : one capable of including variant individuals and of being subsumed in a more inclusive category (mineral ~ are made up of varieties having common basic properties) (one ~ of tramp who wanders from workhouse to workhouse — Osbert Sitwell) **c** : the race of man : human beings : HUMANITY (progress of the ~ in science)

d (1) : a category of biological classification ranking immediately below a genus and subgenus and being denominated taxonomic usage by a binomial that consists of the name of its genus followed by a Latin or latinized noun or adjective which is usu. not capitalized and agrees grammatically with the genus name : a group of intimately related and physically similar organisms that actually or potentially interbreed and are less commonly capable of fertile interbreeding with members of other groups, that ordinarily comprise differentiated populations limited geographically (as subspecies) or ecologically (as ecotypes) which tend to intergrade at points of contact, and that as a group represent the stage of evolution at which variations become fixed through loss of ability to exchange genes with members of other groups although forming conceived pair — compare *NOMENCLATURE* **4c**; see *SPECIFIC* *EPITHET*

(2) : an individual plant or animal or a kind of plant or animal belonging to a particular species — not used technically **e** : a particular kind of atomic nucleus, atom, molecule, or ion (a great number of new nuclear ~ have been prepared within the last few years in the region of the natural radioactivities — Science) (all atoms of a particular radioactive ~ have the same probability of disintegrating — H.D.Smyth) — compare *ISOTOPE*, *NUCLIDE* **2 a** : the consecrated eucharistic elements; *specif* : the accidents of the eucharistic bread and wine as distinguished from the Catholicism from their substance **b** (1) : a mental image, phantasm, or sensuous presentation (2) : an idea or object of thought that is the similitude of an object in nature whether in the guise of a modification of sense or of a purely intellectual correlative of the natural object; *broadly* : FORM, ASPECT, APPEARANCE **c** *obs* : a reflected image : REFLECTION **d** *obs* : an illusory image : PHANTOM **3** *obs* : the essential quality or distinguishing characteristic of something **4 a** : a component part of a compound medicine : SIMPLE **b** : a mixture of chopped or coarsely powdered vegetable drugs; *esp* : one used to prepare an aromatic tea or tisane (a pectoral ~ (an emollient ~)) **c** : a mixture of gold, silver, or other metals : alloy **5** : SPECIES **syn** *CLASS*

species \ˈspɛʃi-ə/ **sh** **se** or **-si** **n** [*spe-* + *-cies*] **adj** : constituting, being a member of, or selected from a biological species and not belonging to a horticultural variety of hybrid origin (the China rose is a ~ rose) (native American ~ irises)

species-group \ˈspɛʃi-ə/ **n** : ARTEKREIS

species-specific \ˈspɛʃi-ə/ **sh** **se** or **-si** **adj** : exhibiting or characterized by species specificity (a species-specific reaction)

species specificity **n** : the phenomenon involved in the interaction of an agent (as a pathogen, drug, or antigen) and members of a given species that results in a reaction characteristic for that species — compare *SUSCEPTIBILITY*

spe-ci-es-ta-ler \ˈspɛʃi-ə/ **sh** **se** or **-si** **n** [*L.* species-taler, fr. *species* *specie* (fr. *L.* species) + *-taler* — more at *TALER*] : REICHTALER

specif *abbr* **1** *specific*; *specifically* **2** *specification*

spec-i-fi-able \ˈspɛʃi-ə/ **sh** **se** or **-si** **adj** : capable of being specified (standards ~) (a ~ logical form)

spe-ci-fi-c \ˈspɛʃi-ə/ **sh** **se** or **-si** **adj** [*L.* *specificus*, fr. *L.* *species* + *-ficus* -*fic*] **1** : constituting or falling into the category specified (fertilizing agents such as nitrogen or phosphate) **2** : having a real and fixed relationship to and usu. constituting a characteristic of : being peculiar to the thing or relation in question (the ~ qualities of a drug) (a ~ distinction between vice and virtue) (symptoms of a disease) **3** : restricted by nature to a particular individual, situation, relation, or effect : PECULIAR (faults ~ to past centuries) (a ~ of therapeutic agent) : exerting a definite and distinctive influence on a particular part of the body or on the course of a particular disease (quinine is highly ~ for malaria) **b** of a parasite (1) : capable of living and reproducing in only one kind of host (2) : producing a particular disease **c** of a disease : caused by a particular pathogen (as a microorganism) **d** of an antigen or antibody : capable of reacting with but one antibody or antigen or with an antibody or antigen in but one way (in complement fixation both antigen and antibody may be either ~ or nonspecific) **4 a** : characterized by precise

purpose, use, or situation **b** : a drug that has a specific mitigating influence on a disease (quinine is a ~ for malaria) **2 a** : a specific or characteristic quality, trait, mark, or other feature **b** : precise details or distinctions : PARTICULARS (our being ~ from the ~ and stirs the unconscious depths of our being) **c** *specifics* *pl* : SPECIFICATION **4** (work out the ~s required for putting his program into effect — New Republic) *syn* *see* REMEDY

specific absorptive index **n** : absorbance of radiation per unit thickness of layer and concentration of solution

spe-ci-fi-cal \ˈspɛʃi-ə/ **sh** **se** or **-si** **adj** [*ME*, fr. *LL* *specificus* + *ME* -*al*] **archaic** : SPECIFIC

spe-ci-fi-cally \ˈspɛʃi-ə/ **sh** **se** or **-si** **adv** [*specific* + *-ly*] : the quality or state of being specific

spe-ci-fi-cal-ly \ˈspɛʃi-ə/ **sh** **se** or **-si** **adv** [*specific* + *-ly*] **1** : in regard to the matter in question : with reference to a quality or condition that is specified or inherent (water is ~ heavier than ice) (a product of ~ architectural imagination — R.W.Kennedy) **2** : with exactness and precision : in a definite manner (he ~ denounced the new tax)

spe-ci-fi-cate \ˈspɛʃi-ə/ **sh** **se** or **-si** **vi** -ED/-ING/-S [*LL* *specificatus*, past part. of *specificare* to specify — more at *SPECIFY*] **to** : to give specificity to : SPECIFY

spe-ci-fi-ca-tion \ˈspɛʃi-ə/ **sh** **se** or **-si** **n** [*ME* *specificatio*, *specificatio*, fr. *LL* *specificatus* + *-ion*, -*ion*] **1** *obs* : the giving of a definite or specific quality **2** : conversion of a kind of property belonging to another into a new kind of property **3** : labor (as in manufacture); also : the acquisition of title in property so produced that results under Roman, Scots, or civil law when the article cannot be reduced to its original form **2** *obs* : natural or specific character : characteristic quality **3** : the act or process of identifying or making specific through the supplying of particularizing detail

a decreasing of generality or vagueness (as of a concept) by determining or supplying characteristics that delimit a more precise applicability; *esp* : the replacement of a variable in a propositional function in symbolic logic by a specific value (a sky is blue" is obtained by ~ from "x is blue") **4** : a detailed, precise, explicit presentation (as by enumeration, description, or working drawing) of something or a plan or proposal for something; as **a** : a written statement containing a minute description or enumeration of particulars (as of charges against a public officer or of the terms of a contract); also : a single article, item, or particular or an allegation of a specific act **b** : a written description of an invention or discovery for which a patent is sought that embodies the manner and process of making, constructing, compounding, and using and concludes with a specific and distinct claim of the part, improvement, or combination which the applicant regards as his discovery or invention — compare *CLAIM* **c** : a specific or printed description of constructional work to be done (as in repairing a house or installing machinery in a factory) forming part of the contract, describing qualities of material and mode of construction, and giving dimension and other information not shown in the drawings — *usu.* used in *pl.*

spe-ci-fi-ca-tive \ˈspɛʃi-ə/ **sh** **se** or **-si** **adj** [*LL* *specificatus* + *-ive*] : tending or serving to specify — *spe-ci-fi-ca-tive-ly* *adv*

specific capacity **n** : the amount of water furnished under a standard unit head : the amount of water that is furnished under unit lowering of the surface of the water in a well by pumping

specific character **n** : a character distinguishing one species from another or from every other species of the same genus

specific charge **n** **1** : a charge against specific identifiable property that is essentially the same in effect as a mortgage **2** : the ratio of the electric charge on a particle to its mass

specific color **n** : a color having hue and saturation : a chromatic color

specific conductance **n** : CONDUCTIVITY

specific cost **n** : DIRECT COST

specific duty **n** : a duty assessed on an article of a given kind at a flat rate per unit of quantity (as a ton, bushel, or yard) without individual appraisal

specific dynamo action **n** : the effect of ingestion and assimilation of food and esp. of protein in increasing the production of heat in the body

specific energy **n** : the supposed specific quality of a sensory nerve that has been held to cause it to transmit a particular kind of sensation whatever the nature of the stimulus and that is usu. attributed to interpretive and correlative processes in the central nervous system

specific entropy **n** : entropy of a substance per unit mass (as per gram or per mole)

specific epithet **n** : the Latin or latinized noun or adjective that follows and agrees grammatically with the genus name in the name of a taxonomic species — called also *trivial name*

specific gravity **n** : the ratio of the density of a substance to the density of some substance (as pure water at its temperature of maximum density at 4°C) taken as a standard when both densities are obtained by weighing in air (if one cubic inch of gold weighs in air 19.3 times as much as one cubic inch of water, the *specific gravity* of gold is 19.3)

specific-gravity balance **n** : a balance used for determining the specific gravity of a liquid or solid by means of the Archimedes' principle

specific-gravity bottle or specific-gravity flask **n** : a pycnometer having the form of a stoppered bottle

specific-gravity bulb **n** : a hollow glass bulb so weighted that it will float on a liquid of greater and sink in a liquid of less specific gravity than that marked on the bulb

specific heat **1** : the ratio of the quantity of heat required to raise the temperature of a body one degree to that required to raise the temperature of an equal mass of water one degree **2** : the heat in calories required to raise the temperature of one gram of a substance one degree centigrade

specific humidity **n** : the mass of water vapor per unit mass of moist air

specific impulse **n** : the thrust produced per unit rate of consumption of the propellant and per second in pounds of thrust per pound of propellant used per second and forming a measure of the efficiency of performance of a rocket engine

specific ionization **n** : the number of ion pairs formed in a gas by an ionizing particle per unit length of its path

spe-ci-fi-cally \ˈspɛʃi-ə/ **sh** **se** or **-si** **adv** [*specific* + *-ly*] : the quality or state of being specific (contribute a desirable note of ~ to the discussion — H.D.Gideonse); *esp* : the condition of being peculiar to a particular individual or group of organisms (host ~ of a parasite)

spe-ci-fi-cize \ˈspɛʃi-ə/ **sh** **se** or **-si** **vi** -ED/-ING/-S : to make specific : give a specific quality to

specific key **n** : a key for a single cryptographic message or a small group of messages — compare *PERIOD KEY*

specific legacy **n** : a bequest of a particular identifiable and existing thing or part (as a specified animal) out of a testator's estate — compare *GENERAL LEGACY*

specific lien **n** : PARTICULAR LIEN

specific magnetization **n** : the ratio of the magnetization of a substance to the density obtained by dividing the magnetic moment of a specimen by its mass

specific modifier **n** : a gene that modifies the effect of one or more other genes

specific name **n** : the binomial name of a taxonomic species consisting of the name of its genus followed by a specific epithet

spe-ci-fi-ness \ˈspɛʃi-ə/ **sh** **se** or **-si** **n** -es : the quality or state of being specific

stance in solution at a concentration of 1 gram per milliliter in a polarimeter

specifics *pl* of *SPECIFIC*

specific stain **n** : a dye used in histology and microchemistry that has a specific affinity for particular structural elements or chemical compounds

specific surface **n** : the ratio of the total surface of a substance (as an adsorbent) to its volume : surface area (as of a finely divided powder) per unit mass

specific volume **n** : the reciprocal of the density : the volume per unit mass of a substance

specific weight **n** : the weight of a substance per unit volume in absolute units equal to the density multiplied by the acceleration of gravity

spec-i-fi-er \ˈspɛʃi-ə/ **sh** **se** or **-si** **n** -s : one that specifies (as by giving details or particulars); *esp* : a person who draws up specifications (as for obtaining a patent)

spe-ci-fi-er \ˈspɛʃi-ə/ **sh** **se** or **-si** **n** -s [*ME* *specifier*, fr. *LL* *specificare*, fr. *specificus* *specific*] **vi** **1 a** : to mention or name in a specific or explicit manner : tell or state precisely or in detail (the uses of a plant) (clearly specified the one he meant) (the request specifies that the recipient must care for the cat) **b** : to include as an item in a specification (oak for flooring throughout); also : to draw specifications (oak to make specific) **c** : to give a specific character or application to (tensions that ~ personal conflicts) — *vi* : to speak precisely or in detail : give full particulars *syn* *see* MENTION

spec-i-men \ˈspɛʃi-ə/ **sh** **se** or **-si** **n** -s [*L.* fr. *specere* to look, look at — more at *SPY*] **1 a** : a particular single item, part, aspect, or incident that is typical and indicative of the nature, character, or quality of others in the same class or group (a ~ of the melodramatic fiction of the era — T.S. Eliot) (compared ~s of their handwriting) (repeated a ~ from which the tenor of the conversation could be readily inferred) **b** : a sample or unit (as of merchandise, a mineral, or a plant) that is deliberately selected for examination, display, or study and is usu. chosen as typical of its kind (a ~ cabinet) (a ~ of a new line of textiles); as (1) : a printed sheet showing different styles and sizes of type (2) : a sample copy of a printed work; *specif* : a condensed sample containing enough of the typography, illustrations, maps, binding, and other features to give an adequate idea of the complete work (3) : a postage stamp printed as a sample and bearing the word *specimen* (4) : a portion of material for use in testing (a fecal ~) (wool ~s for staple testing) **2 a** : something that obviously belongs to a particular category but shows or is noticed by reason of some individual distinguishing character or peculiarity (the scavenging pigs, the dirtiest, leanest, and hungriest ~ I have met with — G.H. Heister) **b** : INDIVIDUAL, PERSON (turned out to be a queer ~ (these fellows that hang around the docks) *syn* *see* INSTANCE

specimen plant **n** : a plant grown for exhibition or in the open to display its full development as distinguished from one in a border or other planting

specio — *see* SPECI-

spe-ci-os-i-ty \ˈspɛʃi-ə/ **sh** **se** or **-si** **n** -es [*ME* *speciostee* beauty, fr. *LL* *speciosus*, *speciositas*, fr. *L.* *speciosus* beautiful + *-itas*, -*itas* -*ity*] **1** : the quality or state of being specious **2** : a specious appearance or thing

spe-cious \ˈspɛʃi-ə/ **sh** **se** or **-si** **adj** [*ME*, fr. *L.* *speciosus* beautiful, showy, plausible, fr. *species* appearance, beauty + *-osus* -*ous* — more at *SPY*] **1** *obs* : presenting a pleasing appearance : pleasing in form or look : SHOWY **2** : superficially beautiful or attractive but not so in reality : deceptively beautiful **3** : apparently right or proper : superficially fair, just, or correct but not so in reality : appearing well at first view : PLAUSIBLE (~ reasoning) (a ~ claim) **4** : existing to our senses : actually known or experienced — *see* SPECIOUS PRESENT — *spe-cious-ly* *adv* — *spe-cious-ness* *n* -ES

specious present **n** : the time span of immediate consciousness : interval within which what is earlier may be distinguished from what is later though both are directly present to consciousness

speck \ˈspɛk/ **n** -s [*ME* *specke*, fr. OE *specca*] **1 a** : a small discoloration in or on something : SPOT, STAIN (a ~ on paper or cloth) (covered with dark ~s) **b** : a small discoloration revealing decay (as in fruit); *broadly* : FLAW, BLEMISH (a reputation without a ~) **2** : a tiny bit of something : a small piece, particle, or amount : MITE (put just a ~ of milk in the tea) (ore sparkling with ~s of gold) (the announcement failed to arouse a ~ of interest) **3 a** : a bacterial or fungous disease of rice characterized by shriveled or specked grains **b** : a disease of plants characterized by small usu. circumscribed lesions — *see* BACTERIAL SPECK **4** : something marked or marked with specks : IMPERFECT but perfect but usable fruit (bought a basket of ~s for jelly) **b** : a spotted or speckled fish (when the big ~s begin biting) **5** : a small sand darter (*Ulocentra stigmata*) common in the southeastern U.S.

2 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

3 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

4 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

5 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

6 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

7 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

8 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

9 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

10 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

11 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

12 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

13 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

14 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

15 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

16 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

17 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

18 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

19 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

20 *speck* \ˈspɛk/ **n** -s [*ME* *spekke*] **1** : to produce specks and esp. blemishes on or in : SPOT, SPECKLE **2** : to remove specks from (as cloth)

21 *speck* \ˈspɛk/ **n** -

REVISED APPENDIX B - EVIDENCE

Exhibit A – Webster’s Third New International Dictionary, title sheet and page 2187

Exhibit B - U.S. Patent No. 7,465,216, claim 1
U.S. Patent No. 7,513,214, claim 1
U.S. Patent No. 7,434,833, claim 4
U.S. Patent No. 7,305,808, claim 1
U.S. Patent No. 7,546,631, claim 7

11

ing solution. Therefore, the occurrence of the scratches of a semiconductor substrate during polishing can be reduced.

In a preferred variation of the present invention, the adherence of abrasive grains on the inner wall of the mixing unit can be prevented.

In a preferred variation of the present invention, since the occurrence of the scratches of the semiconductor substrate during polishing can be reduced, semiconductor devices of high quality can be manufactured.

Further, the present invention is not limited to these embodiments, but variations and modifications may be made without departing from the scope of the present invention.

The entire disclosure of Japanese Patent Application No. 2000-363478 filed on Nov. 29, 2000 containing specification, claims, drawings and summary are incorporated herein by reference in its entirety.

What is claimed is:

1. An apparatus including a polishing solution supply system, the polishing solution supply system comprising:

- a polishing table for placing a semiconductor substrate on a major surface thereof;
- a first supply unit for spraying and supplying a mist comprising abrasive slurry;
- a second supply for spraying and supplying a mist comprising additive;

12

a third supply unit for spraying and supplying a mist comprising pure water; and

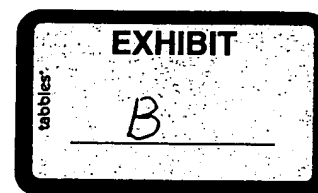
a mixing unit for mixing the mist of abrasive slurry supplied from said first supply unit, the mist of additive supplied from said second supply unit and the mist of pure water supplied from said third supply unit to form a polishing mixture, said mixing unit supplying the polishing mixture onto said major surface of said polishing table,

wherein each of said supply units comprises:

- a tank for storing liquid;
- a pipe for supplying said liquid from said tank to said mixing unit;
- a pump for supplying said liquid in said tank to said pipe at a pressure, or a gas supply unit for supplying a gas into said tank so as to supply said liquid in said tank to said pipe at a specified pressure;
- a control unit for controlling the pressure of said liquid in said pipe at a flow rate; and
- a spray unit for spraying said liquid supplied from said pipe into said mixing unit, and

wherein said additive is an aqueous solution of organic acid, or an aqueous solution of hydrogen peroxide.

* * * * *



21

with, exhausting the interior of the vacuum chamber. The plasma is generated by applying a high-frequency power having a frequency of 50 MHz to 300 MHz to a counter electrode or antenna provided opposite to the substrate via the matching box, and a high-frequency coupling device is provided to connect a high-frequency output terminal of the matching box and the counter electrode or antenna to each other. The substrate is processed by using the generated plasma. Thus, uniform plasma can be generated so that the substrate can be uniformly processed.

Also, the plasma processing method of the present invention is for generating plasma within a vacuum chamber and processing a substrate placed on a substrate electrode within the vacuum chamber. The method comprises arranging a straight line passing through a center axis of the high-frequency coupling device, a straight line passing through a center axis of the counter electrode or antenna, and a straight line passing through a center axis of the substrate so as to be generally coincident together. The interior of the vacuum chamber is maintained at a specified pressure by introducing a gas into the vacuum chamber and, simultaneously therewith, exhausting the interior of the vacuum chamber. The plasma is generated by applying a high-frequency power having a frequency of 50 MHz to 300 MHz to a counter electrode or antenna provided opposite to the substrate via the matching box, and a high-frequency coupling device is provided to connect a high-frequency output terminal of the matching box and the counter electrode or antenna to each other. The substrate is processed by using the generated plasma. Thus, uniform plasma can be generated so that the substrate can be uniformly processed.

Also, the plasma processing apparatus comprises a vacuum chamber; a gas supply unit for supplying gas into the vacuum chamber; an evacuating device for evacuating the interior of the vacuum chamber; a substrate electrode for placing thereon a substrate within the vacuum chamber; a counter electrode or an antenna provided opposite to the substrate electrode; a high-frequency power supply capable of supplying a high-frequency power having a frequency of 50 MHz to 300 MHz to the counter electrode or antenna; the matching box as defined in the 28th aspect; and a high-frequency coupling device for connecting the high-frequency output terminal of the matching box and the counter electrode or antenna to each other. A straight line passing through a center axis of the high-frequency coupling device, a straight line passing through a center axis of the counter electrode or antenna, and a straight line passing through a center axis of the substrate are arranged so as to be generally coincident together. Thus, uniform plasma can be generated so that the substrate can be uniformly processed.

Also, the plasma processing apparatus comprises a vacuum chamber; a gas supply unit for supplying gas into the vacuum chamber; an evacuating device for evacuating the interior of the vacuum chamber; a substrate electrode for placing thereon a substrate within the vacuum chamber; a counter electrode or an antenna provided opposite to the substrate electrode; high-frequency power supply capable of supplying a high-frequency power having a frequency of 50 MHz to 300 MHz to the counter electrode or antenna; the matching box as defined in the 33rd aspect; and a high-frequency coupling device for connecting the high-frequency output terminal of the matching box and the counter electrode or antenna to each other. A straight line passing through a center axis of the high-frequency coupling device, a straight line passing through a center axis of the counter electrode or antenna, and a straight line passing through a center axis of the substrate

22

are arranged so as to be generally coincident together. Thus, uniform plasma can be generated so that the substrate can be uniformly processed.

Although the present invention has been fully described in connection with the preferred embodiments thereof with reference to the accompanying drawings, it is to be noted that various changes and modifications are apparent to those skilled in the art. Such changes and modifications are to be understood as included within the scope of the present invention as defined by the appended claims unless they depart therefrom.

We claim:

1. A plasma processing method for generating plasma within a vacuum chamber and processing a substrate placed on a substrate electrode within the vacuum chamber, the method comprising:

generating the plasma by supplying a high-frequency power having a frequency of 50 MHz to 3 GHz to a counter electrode provided opposite to the substrate while the interior of the vacuum chamber is controlled to a specified pressure by introducing gas into the vacuum chamber and, simultaneously therewith, evacuating the interior of the vacuum chamber; and

processing the substrate using the generated plasma while controlling plasma distribution on the substrate using a single annular groove formed between the vacuum chamber and an insulating ring for insulating the vacuum chamber and the counter electrode from each other, wherein said insulating ring annularly surrounds the counter electrode, wherein the annular groove being located so that an outer-side face of the annular groove is located inside of and is non-coplanar with an inner surface of a sidewall of the vacuum chamber, and so that the annular groove has a groove width in a range of 3 mm to 50 mm.

2. A plasma processing apparatus comprising:

a vacuum chamber;
a gas supply unit for supplying gas into said vacuum chamber;
an evacuating device for evacuating an interior of said vacuum chamber;
a substrate electrode for placing thereon a substrate within said vacuum chamber;
a counter electrode provided opposite to said substrate electrode;
a high-frequency power supply operable to supply a high-frequency power having a frequency of 50 MHz to 3 GHz to said counter electrode; and
a single annular groove formed between said vacuum chamber and an insulating ring for insulating said vacuum chamber and said counter electrode from each other, wherein said insulating ring annularly surrounds the counter electrode, wherein said annular groove being located so that an outer-side face of said annular groove is located inside of and is non-coplanar with an inner surface of a sidewall of said vacuum chamber, said annular groove having a groove width in a range of 3 mm to 50 mm.

3. The plasma processing method of claim 1, wherein the single annular groove defines a plasma trap located opposite the substrate.

4. The plasma processing method of claim 1, further comprising supplying a gas into the vacuum chamber at a location outside of the annular groove such that no gas is introduced directly into the annular groove from outside the vacuum chamber.

receiving the large longitudinal G and lateral G in the rearward-leaning position can be effectively protected by the lap belt 7.

Also, when the occupant is in the rearward-leaning position and the driving mode is the quick braking mode, the control value is set such that the control value S for the shoulder belt 6 is equal to the control value R for the lap belt 7. Thereby, the air is equally supplied to both the bag portion 6a of the shoulder belt 6 and the bag portion 7a of the lap belt 7. Accordingly, the occupant can be effectively protected by both the shoulder belt 6 and the lap belt 7.

Further, when the occupant is in the rearward-leaning sitting position and the driving mode is the quick handling mode, the control value is set such that the control value S for the shoulder belt 6 is extremely smaller than the control value R for the lap belt 7. Accordingly, the air is promptly and intensively supplied to the bag portion 7a of the lap belt 7, and thereby the occupant receiving the large lateral G in the rearward-leaning sitting position can be protected.

Herein, when it is determined by the driving-state detecting device 143 that the driving mode is the normal mode, the respective control values R and S for the shoulder belt 6 and the lap belt 7 are set zero respectively regardless of the sitting position of the occupant so as to stop the air supply to these belts.

And, the control signal to open the valves 13 and 16 is generated by the valve control device 127 (Step S149), and the control signal to operate the blower device 3 and supply the air to the bag portions 6a and 7a of the seat belt is executed by the air supply control device 104 (Step S150). The air supply to the bag portions 6a and 7a of the belts 6 and 7 with the air supply timing and the air supply pressure which have been set in the above-described step S148 is executed.

Specifically, when the detecting signal of the high likelihood of vehicle crash is received from the detecting device 126, the switching valve 24 is controlled so as to connect the accumulator 23 of the blower device 3 with the air supply passages 12 and 15 and the pressured air is supplied to the bag portions 6a and 7a of the seat belt from the accumulator 23 via the air supply passages 12 and 15 at the specified timing, respectively. And, the switching valve 24 is controlled so as to connect the blower resource 22 of the blower device 3 with the air supply passages 12 and 15, and the rotational speed of the blower resource 22 is adjusted according to the air supply pressure which is set based on the driving mode detected by the driving-state detecting device 143 and the occupant sitting position detected by the sitting-position detecting device 142. Thus, the air supply control to the bag portions 6a and 7a of the seat belt is executed by the air supply control device 104.

Also, it is determined by the air supply control device 104 whether the condition for the air-supply stopping is satisfied or not by determining whether or not the predetermined supply period of time has passed after the air supply to the bag portions 6a and 7a had started (Step S51). When the passage of the predetermined period of time after the start of the air supply is determined and the answer to step S51 is YES, the control signal to close the valves 13 and 16 is generated from the valve control device 127 (Step S52).

Then, it is determined whether or not either a releasing operation of the seat belt or an OFF operation of an ignition key switch (IG) is done (Step S53). When the answer is YES, the valves 13 and 16 are opened and thereby the air in the bag portions 6a and 7a of the seat belt is discharged (Step S154), and then the control sequence returns after this returning the bag portions 6a and 7a to their initial states.

As described above, since the air supply timing and supply pressure to the bag portions 6a and 7a of the shoulder belt 6

and the lap belt 7 from the blower device 3 are controlled according to the vehicle driving state detected by the driving-state detecting device 143 of the vehicle-state detecting device 125, the bag portions 6a and 7a can be inflated properly according to the vehicle driving state. Thereby, the occupant can be effectively protected by the shoulder belt 6 and the lap belt 7, without giving the uncomfortable feeling to the occupant.

Herein, the determination as to whether or the vehicle is in the driving state of sharp driving curve or gentle curb or whether or not the vehicle is in the driving state of steep slope or gentle slope may be conducted based on detecting signals of the acceleration sensor to detect the vehicle acceleration and the steering angle sensor to detect the steering angle of the steering wheel, the yaw ratio sensor to detect the vehicle yaw ratio and the vehicle speed sensor to detect the vehicle speed, or the like. And, the air supply control may be executed by the air supply control device 104 to which the above-described detecting signals are supplied.

The present invention should not be limited to the above-described embodiments, but any other modifications and improvements may be applied within the scope of a spirit of the present invention.

What is claimed is:

1. A seat belt device for a vehicle, comprising:

an inflatable bag portion provided at a seat belt for protecting an occupant and adapted to receive inflation air;

a blower device operative to repeatedly supply the inflation air to said bag portion;

an air supply passage connecting said bag portion with said blower device;

an air supply control device operative to supply the inflation air from said blower device to said bag portion so as to inflate said bag portion and discharge the supplied air from the bag portion so as to return said bag portion to a deflated initial state, whereby an inflation operation of said inflatable bag portion can be reused;

a detecting device operative to detect a high likelihood of an occurrence of vehicle crash, wherein the inflation air is supplied to said bag portion to inflate said bag portion when the high likelihood of the occurrence of vehicle crash is detected by said detecting device;

a valve which is provided at said air supply passage, and a valve control device operative to control said valve so as to open and shut the air supply passage according to a control condition; and

a vehicle-crash detecting device operative to detect a real occurrence of vehicle crash, wherein said valve is controlled so as to shut the air supply passage when the real occurrence of vehicle crash has been detected by said vehicle-crash detecting device after a supply of the inflation air to said bag portion had started.

2. The seat belt device for a vehicle of claim 1, wherein said valve is controlled so as to shut the air supply passage when a specified supply period of time has passed after a supply of the inflation air to said bag portion had started.

3. The seat belt device for a vehicle of claim 1, further comprising a pressure sensor to detect an air pressure in said bag portion, wherein said valve is controlled so as to shut the air supply passage when the pressure sensed by said pressure sensor has reached a specified pressure after a supply of the inflation air to said bag portion had started.

4. The seat belt device for a vehicle of claim 1, wherein after the inflation air has been supplied to the bag portion, a pressure of the inflation air in the bag portion is adjusted to a specified pressure value.

9

What is claimed is:

1. A packaging machine comprising:

a cylindrical chute;

means for bending an elongated bag-making film into a tubular form around said chute by mutually overlapping side edges of said film;

a heater unit for longitudinally sealing said mutually overlapping side edges of said film;

heater driving means for moving said heater unit between a sealing position at which said heater unit contacts said film and a retracted position at which said heater unit is separated from said chute;

a motor for moving said heater unit between a work area that includes said sealing position and said retracted position and a non-work area that is farther removed from said chute than said work area; and

a force-controlling air cylinder for controlling compressive force with which said heater unit at said sealing position compresses said film against said chute by having air of a specified pressure supplied thereto;

wherein said force-controlling air cylinder and said heater unit are affixed to one end of an elongated arm member and said heater driving means includes a heater-moving air cylinder which serves to move said arm member.

2. A packaging machine comprising:

a cylindrical chute;

means for bending an elongated bag-making film into a tubular form around said chute by mutually overlapping side edges of said film;

10

a heater unit for longitudinally sealing said mutually overlapping side edges of said film;

heater driving means for moving said heater unit between a sealing position at which said heater unit contacts said film and a retracted position at which said heater unit is separated from said chute;

a motor for moving said heater unit between a work area that includes said sealing position and said retracted position and a non-work area that is farther removed from said chute than said work area;

a force-controlling air cylinder for controlling compressive force with which said heater unit at said sealing position compresses said film against said chute by having air of a specified pressure supplied thereto;

pressure regulating means for regulating air pressure supplied to said force-controlling air cylinder to a specified pressure level; and

a controller for controllably varying said specified pressure level;

wherein said force-controlling air cylinder and said heater unit are affixed to one end of an elongated arm member and said heater driving means includes a heater-moving air cylinder which serves to move said arm member.

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7

collection of management information with the first virtual element, and wherein the collection of management information for the second virtual element is tagged with a first virtual element identifier and a second virtual element identifier to associate that collection of management information with the first virtual element and the second virtual element, such that the collection of management information for the second virtual element is able to be viewed from the view of the first virtual element and the embedded view of the second virtual element.

2. The apparatus of claim 1 wherein said management facility provides one of a system view and virtual element view to a user based on said user profile, said system view including a view of plurality of said virtual elements.

3. The apparatus of claim 1, comprising further:
a user interface, said user interface modified based on the scope and type of access privileges accorded to said user.

4. The apparatus of claim 1 wherein access to said management information is scoped based upon the access privileges accorded a user.

5. The apparatus of claim 1 wherein said collection of user profile information defines the type of access privileges of said user.

6. The apparatus of claim 1 wherein said collection of user profile information defines the scope of access privileges of said user.

7. The apparatus of claim 6 wherein said scope of access privileges of the user is set to one of a specified virtual element, a subset of virtual elements and unlimited access to management information for all of said virtual elements on said physical device.

8. The apparatus of claim 1 further comprising:
a schema for management data and commands stored in an XML (Extensible Markup Language) file.

9. The apparatus of claim 8 wherein data in said XML file is used to create one of a MIB (Management Information Base) file and SMF (Simple Management Framework) file.

10. In a network, a method of controlling access to a plurality of virtual elements, said method comprising:

providing a physical device with a plurality of virtual elements configured thereon, each said virtual element associated with a collection of management information for said virtual element, said collection of management information including an access scope indicating a required user access level needed to access said information, wherein said collection of management information is associated with a virtual element identifier and said virtual elements direct communication between clients and resource groups;

instantiating an environment object associated with a user interfaced with said device, said environment object including a collection of user profile information associated with said user;

requesting access for a user to a collection of said management information for a virtual element; and

determining whether to grant said request based on said user profile information and said collection of management information,

8

providing a management facility facilitating a view of a first virtual element from the plurality of virtual elements to the user, the view of the first virtual element containing an embedded view of a second virtual element, the second virtual element associated with the first virtual element,

tagging the collection of management information for the first virtual element with a virtual element identifier to associate that collection of management information with the first virtual element; and

tagging the collection of management information for the second virtual element with a first virtual element identifier and a second virtual element identifier to associate that collection of management information with the first virtual element and the second virtual element, such that the collection of management information for the second virtual element is able to be viewed from the view of the first virtual element and the embedded view of the second virtual element.

11. The method of claim 10 wherein said request is contained in a CLI (Command Line Interface)-generated request, web-based request and programmatically generated request.

12. The method of claim 10, further comprising:

providing a management facility facilitating one of a system view and virtual element view to said user based on said user profile information with said user, and system view including a view of a plurality of said virtual elements.

13. The method of claim 10 wherein said collection of user profile information defines the type of access privileges of said user.

14. The method of claim 10 wherein said collection of user profile information defines the scope of access privileges of said user.

15. The method of claim 14 wherein the scope of access privileges of the user is set to one of a specified virtual element, a subset of virtual elements and unlimited access to configuration data of any virtual element configured on said physical device.

16. The method of claim 10, further comprising:
allowing a user to access said collection of management information associated with a virtual element based on a response to the request.

17. The method of claim 10, further comprising:
denying a user access to said collection of management information associated with a virtual element based on a response to the request.

18. The method of claim 10, further comprising:
tagging each collection of management information with a virtual element identifier to associate that collection of management information with a particular virtual element.

19. The method of claim 10, further comprising:
providing a user interface, said user interface modified based on the scope and type of access privileges accorded said user.

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